

REMARKS

Claims 22, 25, 26, 28, 30, 33, 34 and 36 are amended, and new claims 37 and 38 added. Claims 22 – 38 are pending. The amendments and new claims are fully supported by the application as filed and no new matter is added.

Rejections under 35 U.S.C. § 103(a)

Claims 22, 23, and 29-31 are rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,745,480 to Behtash et al (“Behtash”) in view of U.S. Patent No. 5,361,399 to Linquist et al (“Linquist”) and U.S. Patent No. 6,173,007 to Odenwalder et al (“Odenwalder”). Applicants respectfully traverse this rejection.

The invention of claims 22 and 30 checks, when a communication request is made for a high speed communication, two conditions: whether transmission power of all high speed communications performed simultaneously becomes greater than a first threshold value if the communication request is accepted, and whether transmission power of all communications performed simultaneously becomes greater than a second threshold value if the communication request is accepted; and restricts acceptance of the communication request, if either of the conditions is satisfied.

In this way, in the invention of claims 22 and 30, the acceptance of the communication request is restricted not only in a case where the transmission power of all communications performed simultaneously becomes greater than a certain threshold value (second threshold value), but also in a case where the transmission power of all high speed communications performed simultaneously becomes greater than a certain threshold value (first threshold value). Thereby, traffic of high speed communication calls can be restricted and channels for low speed communication calls can be ensured.

None of the cited references of Behtash, Linquist and Odenwalder disclose this feature of the invention of claims 22 and 30.

Behtash does not make a distinction between high speed communications and low speed communications. Behtash calculates, when receiving a service request, the power budget H

required for the request, and determines whether H is lower than 1 (the maximum value of power budget for all users (all communications)) – ΣH_i (current power budget for other users), and then accepts the request if H is lower than $1 - \Sigma H_i$, and calculates available power budget and allows a service with a data rate in accordance with the available power budget if H is not lower than $1 - \Sigma H_i$ (see column 4, line 26 to column 5, line 50 and Figure 4).

However, contrary to the invention of claims 22 and 30, in Behtash, comparison between transmission power and a threshold value is not carried out doubly. That is, only whether transmission power of all communications becomes greater than a threshold value is checked, and whether transmission power of all high speed communications becomes greater than a threshold value is not checked.

Therefore, the invention of claims 22 and 30 is not obvious over Behtash, Linquist and Odenwalder which do not disclose a feature of the invention of claims 22 and 30 that the above-mentioned two conditions are checked, and acceptance of the communication request is restricted if either of the conditions is satisfied. As such, Applicants submit that these claims are patentably distinct from the cited references and are allowable over the prior art.

With respect to claims 23, 29, and 31, as these claims depend on claims 22, and 30, Applicants submit that these claims are also allowable over the prior art for at least the same reasons as stated above.

Objections

Claims 24-28 and 32-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base and any intervening claims. Applicants respectfully traverse the Examiner's objection.

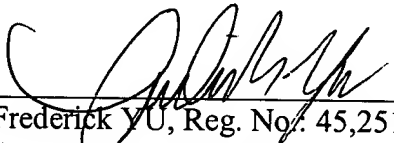
Applicants respectfully submit that the base claims are allowable for at least the reasons stated above. Consequently, Applicants respectfully submit that claims 24-28 and 32-36, which depend on these base claims, are allowable for at least the same reasons.

CONCLUSION

Applicants believe that they have fully responded to the Examiner's concerns and that all pending claims are in condition for immediate allowance. Applicants respectfully request reconsideration and immediate allowance of the claim. Applicants request that any questions concerning this matter be directed to the undersigned.

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Respectfully submitted,


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Uebayashi, et al.
App. No. : 09/294,630 Examiner: Duong, Duc T.
Filed : April 19, 1999 Group Art Unit: 2663
Title : SIGNAL TRANSMISSION METHOD AND BASE STATION IN
MOBILE COMMUNICATION

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MARKED UP CHANGES TO CLAIMS

Marked up version of Amended Claims Pursuant to 37 C.F.R. 1.121(c)

22. (Amended) A signal transmission method over a forward traffic channel in cellular mobile communications that can simultaneously perform one or more high speed communications whose transmission rates are higher than or equal to a predetermined rate, and one or more low speed communications whose transmission rates are lower than the predetermined rate between a plurality of mobile stations and a base station, said signal transmission method comprising the steps of:

checking, on a base station side, whether a communication request is made for a high speed communication;

checking, if the communication request is made for a high speed communication, whether transmission power of all high speed communications performed simultaneously becomes greater than a predetermined first threshold value if the communication request is accepted; [and]

checking whether transmission power of all communications performed simultaneously becomes greater than a predetermined second threshold value if the communication request is accepted; and

restricting acceptance of the communication request, if the transmission power of all high speed communications becomes greater than the first threshold value or the transmission power of all communications becomes greater than the second threshold value.

25. (Amended) The signal transmission method as claimed in claim 22, wherein the step of restricting checks, if the transmission power of all high speed communications becomes greater than the first threshold value, whether the transmission power of all high speed communications becomes greater than a predetermined [second] third threshold value if the communication request is accepted, and accepts the communication request with limiting a transmission rate of the requested communication, if the transmission power of all high speed communications becomes less than or equal to the [second] third threshold value, and rejects the communication request, if the transmission power of all high speed communications becomes greater than the [second] third threshold value.

26. (Amended) The signal transmission method as claimed in claim 22, wherein the step of restricting checks, if the transmission power of all high speed communications becomes greater than the first threshold value, whether the transmission power of all high speed communications becomes greater than a predetermined [second] third threshold value if the communication request is accepted, and accepts the communication request with limiting a transmission rate of the requested communication, if the transmission power of all high speed communications becomes less than or equal to the [second] third threshold value, and temporarily holds, if the transmission power of all high speed communications becomes greater than the [second] third threshold value, the communication request for an allowable time period to wait for the transmission power of all high speed communications to become less than or equal to the [second] third threshold value, and rejects the communication request if the transmission power of all high speed communications does not become less than or equal to the [second] third threshold value within the allowable time period.

28. (Amended) The signal transmission method as claimed in claim 25 [or 26], further comprising the step of varying the [second] third threshold value in accordance with a number of low speed communications.

30. (Amended) A base station that simultaneously performs one or more high speed communications whose transmission rates are higher than or equal to a predetermined rate, and one or more low speed communications whose transmission rates are lower than the predetermined rate with a plurality of mobile stations, said base station comprising:

means for checking whether a communication request is made for a high speed communication;

means for checking, if the communication request is made for a high speed communication, whether transmission power of all high speed communications performed simultaneously becomes greater than a predetermined first threshold value if the communication request is accepted; [and]

means for checking whether transmission power of all communications performed simultaneously becomes greater than a predetermined second threshold value if the communication request is accepted; and

means for restricting acceptance of the communication request, if the transmission power of all high speed communications becomes greater than the first threshold value or the transmission power of all communications becomes greater than the second threshold value.

33. (Amended) The base station as claimed in claim 30, wherein the means for restricting checks, if the transmission power of all high speed communications becomes greater than the first threshold value, whether the transmission power of all high speed communications becomes greater than a predetermined [second] third threshold value if the communication request is accepted, and accepts the communication request with limiting a transmission rate of the requested communication, if the transmission power of all high speed communications becomes less than or equal to the [second] third threshold value, and rejects the communication request, if the transmission power of all high speed communications becomes greater than the [second] third threshold value.

34. (Amended) The base station as claimed in claim 30, wherein the means for restricting checks, if the transmission power of all high speed communications becomes greater than the first threshold value, whether the transmission power of all high speed communications

becomes greater than a predetermined [second] third threshold value if the communication request is accepted, and accepts the communication request with limiting a transmission rate of the requested communication, if the transmission power of all high speed communications becomes less than or equal to the [second] third threshold value, and temporarily holds, if the transmission power of all high speed communications becomes greater than the [second] third threshold value, the communication request for an allowable time period to wait for the transmission power of all high speed communications to become less than or equal to the [second] third threshold value, and rejects the communication request if the transmission power of all high speed communications does not become less than or equal to the [second] third threshold value within the allowable time period.

36. (Amended) The base station as claimed in claim 33 [or 34], further comprising the means for varying the [second] third threshold value in accordance with a number of low speed communications.

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July 7, 2003

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